CIVIL PRO
AN ISO 9001 : 2008 COMPANY &NABL ACCREDITED LABORATORY AS PER ISO/IEC 17025:2005
4, 7TH MAIN MALLESWARAM, BANGALORE -3
Certificate No.: T- 4358

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	CP-2017-06-16-03 **Date: 18-06-2017**
Customer	:	Assistant Executive Engineer, Yelahanka Satellite Town, Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Satellite Town, Sub Division, BBMP, Bangalore.
Project Name	:	Construction of CC Road near GPS school at Kanakanagara in ward no.04
Agency	:	Sri.Venkategowda, No:531/1, 14th A Cross, A sector, Yelahanka New Town, Bangalore-64.
Customer's Reference	:	EE(YN.D)E-PMT-07/W.O/71/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	16-06-17
Sample ID No	:	2017-06-16-03-01
Sample Type	:	Ultra Tech 53 grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 (Part 1,2 3,4,5, 6,11):1988 IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4 IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5 IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6 IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6
Date of test	:	17-06-17

SLNo.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	2.85	–
2	Finess by Air permeablity method (m^2/kg, Min)	275.5	225m^2/kg, Min
3	Density (gm/cc)	3.15	–
4	Standard Consistency (%)	28.5%	Not specified
5	Initial Setting time	175 minutes	Not less than 30 minutes
6	Final Setting time	265 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

Note:
The results pertain to the samples received and tested.
All information furnished by Customer/Representative
Any correction in the report will make this report invalid
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 30 days from the date of issue of test certificate

Prepared by
Harshitha

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
KARTHIK RECHAN
Authorized Signatory
Quality Manager

AE W4

****End of Report****

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com
HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES |

CIVIL PRO
AN ISO 9001 : 2008 COMPANY &NABL ACCREDITED LABORATORY AS PER ISO/IEC 17025:2005
4, 7TH MAIN MALLESWARAM, BANGALORE -3
Certificate No.: T- 4358

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	CP-2017-06-16-03
		Date: 23-06-2017
Customer	:	Assistant Executive Engineer, Yelahanka Satellite Town, Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Satellite Town, Sub Division, BBMP, Bangalore.
Project Name	:	Construction of CC Road near GPS school at Kanakanagara in ward no.04
Agency	:	Sri.Venkategowda, No:531/1, 14th A Cross, A sector, Yelahanka New Town, Bangalore-64.
Customer's Reference	:	EE(YN.D)E-PMT-07/W.O/71/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	16-06-17
Sample ID No	:	2017-06-16-03-01
Sample Type	:	Ultra Tech 53 grade
Reference to BIS codes	:	IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, Determination of Compressive Strength, Clause 6
Date of test	:	16-06-17

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	28.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	39.5N/mm^2	Not less than 37 N/mm^2

Note:
The results pertain to the samples received and tested.
All information furnished by Customer/Representative
Any correction in the report will make this report invalid
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 30 days from the date of issue of test certificate

Prepared by
Harshitha

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

AE W4

****End of Report****

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL|
GEO TECHNICAL| PROJECT MANAGEMENT| SURVEYING SERVICES |

TEST REPORT ON COARSE AGGREGATES

Lab ID	:	CP-2017-06-16-03 **Date: 20-06-2017**
Customer	:	Assistant Executive Engineer, Yelahanka Satellite Town, Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Satellite Town, Sub Division, BBMP, Bangalore.
Project Name	:	Construction of CC Road near GPS school at Kanakanagara in ward no.04
Agency	:	Sri.Venkategowda, No:531/1, 14th A Cross, A sector, Yelahanka New Town, Bangalore-64.
Customer's Reference	:	EE(YN.D)E-PMT-07/W.O/71/2017-18
Source of Sample	:	Sample supplied by Agency
Sample condition	:	Satisfactory
Date of Receipt	:	16-06-17
Sample ID No	:	2017-06-16-03-02(b)
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	16-06-17

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	308	308	2.1	97.9	90-100
3	20 mm	5300	5608	37.4	62.6	30-70
4	10 mm	4900	10508	70.1	29.9	10-35
5	4.75 mm	3990	14498	96.7	3.3	0-5
6	Pan	502	15000	100.0	0	---

AE W4

CIVIL Pro Sig..... Date..... BANGALORE

TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2017-06-16-03** **Date: 20-06-2017**

Sample ID No : 2017-06-16-03-02(b)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	13.2	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	12.5	
3	Specific Gravity	2.65	–
4	Bulk Density(Loose) (Kg/l)	1.57	–
5	Bulk Density(Compacted) (Kg/l)	1.59	–
6	Water Absorption(%)	0.21	–

Note:

The results pertain to the samples received and tested.
All information furnished by Customer/Representative
Any correction in the report will make this report invalid
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 30 days from the date of issue of test certificate

AE W4

Prepared by
Harshitha

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

TEST REPORT ON COARSE AGGREGATES

Lab ID	:	CP-2017-06-16-03 **Date: 20-06-2017**
Customer	:	Assistant Executive Engineer, Yelahanka Satellite Town, Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Satellite Town, Sub Division, BBMP, Bangalore.
Project Name	:	Construction of CC Road near GPS school at Kanakanagara in ward no.04
Agency	:	Sri.Venkategowda, No:531/1, 14th A Cross, A sector, Yelahanka New Town, Bangalore-64.
Customer Reference	:	EE(YN.D)E-PMT-07/W.O/71/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	16-06-17
Sample ID No	:	2017-06-16-03-02(a)
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	16-06-17

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	287	287	5.7	94.3	90-100
3	10 mm	2400	2687	53.7	46.3	25-55
4	4.75 mm	2200	4887	97.7	2.3	0-10
5	Pan	113	5000	100	0	–

AE W 4

CIVIL Pro Sig..... Date..... BANGALORE

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

Lab ID : **TEST REPORT ON COARSE AGGREGATES**

Sample ID No : CP-2017-06-16-03 **Date: 20-06-2017**

: 2017-06-16-03-02(a)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	12.4	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	11.8	
3	Specific Gravity	2.68	–
4	Bulk Density(Loose) (Kg/l)	1.54	–
5	Bulk Density(Compacted) (Kg/l)	1.58	–
6	Water Absorption(%)	0.19	–
7	Aggregate crushing Value(%)	23.2	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	22.2	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

Note:
The results pertain to the samples received and tested.
All information furnished by Customer/Representative
Any correction in the report will make this report invalid
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 30 days from the date of issue of test certificate

AE W4

Prepared by
Harshitha

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
KARTHIK RECHAN
Authorized Signature
Quality Manager

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES |

TEST REPORT OF FINE AGGREGATE

Lab ID	:	**CP-2017-06-16-03** **Date: 20-06-17**
Customer	:	Assistant Executive Engineer, Yelahanka Satellite Town, Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Satellite Town, Sub Division, BBMP, Bangalore.
Project Name	:	Construction of CC Road near GPS school at Kanakanagara in ward no.04
Agency	:	Sri.Venkategowda, No:531/1, 14th A Cross, A sector, Yelahanka New Town, Bangalore-64.
Customer's Reference	:	EE(YN.D)E-PMT-07/W.O/71/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	16-06-17
Sample ID No	:	2017-06-16-03-03
Sample Type	:	Fine Aggregate
Reference to BIS codes	:	IS 383 : 2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1, 3) RA2012 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption
Date of test	:	16-06-17
Total weight taken	:	1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0	100	100	100	100	100
2	4.75 mm	85	85	8.5	91.5	90-100	90-100	90-100	95-100
3	2.36 mm	130	215	21.5	78.5	60-95	75-100	85-100	95-100
4	1.18 mm	170	385	38.5	61.5	30-70	55-90	75-100	90-100
5	600 micron	185	570	57	43	15-34	35-59	60-79	80-100
6	300 micron	187	757	75.7	24.3	5-20	8-30	12-40	15-50
7	150 micron	150	907	90.7	9.3	0-10	0-10	0-10	0-15
8	Pan	93	1000	100	0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

AE W4

CIVIL Pro Sig..... Date..... BANGALORE

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.com, civilproexperts@gmail.com

CIVIL PRO
AN ISO 9001 : 2008 COMPANY &NABL ACCREDITED LABORATORY AS PER ISO/IEC 17025:2005
4, 7TH MAIN MALLESWARAM, BANGALORE -3
Certificate No.: T- 4358

TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2017-06-16-03**

Sample ID No : 2017-06-16-03-03

Date: 20-06-17

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	1.65	–
2	Specific Gravity	2.57	–
3	Material finer than 75 micron(%)	5.3	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

Note:
The results pertain to the samples received and tested.
All information furnished by Customer/Representative
Any correction in the report will make this report invalid
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 30 days from the date of issue of test certificate

Prepared by
Harshitha

AE W4

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com
HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL |
GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES |

CIVIL PRO
AN ISO 9001 : 2008 COMPANY &NABL ACCREDITED LABORATORY AS PER ISO/IEC 17025:2005
4, 7TH MAIN MALLESWARAM, BANGALORE -3
Certificate No.: T- 4358

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID	:	CP-2017-06-28-01 **Date: 30-06-17**
Customer	:	Assistant Executive Engineer, Yelahanka Satellite Town, Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Satellite Town, Sub Division, BBMP, Bangalore.
Project Name	:	Construction of CC Road near GPS school at Kanakanagara in ward no.04
Agency	:	Sri.Venkategowda, No:531/1, 14th A Cross, A sector, Yelahanka New Town, Bangalore-64.
Customer's Reference	:	EE(YN.D)E-PMT-07/W.O/71/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	28-06-16
Sample ID No	:	2017-06-28-01-01
Customer ID	:	Cement Concrete Pavement
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M30 / 7 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5
Date of test	:	30/06/2017

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement	M30	23/06/2017	30/06/2017	150.15 X 150.14 X 150.19	22544	8.290	554.6	24.6	24.7
2	Cement Concrete Pavement	M30	23/06/2017	30/06/2017	150.21 X 150.20 X 150.15	22562	8.340	548.2	24.3	
3	Cement Concrete Pavement	M30	23/06/2017	30/06/2017	150.22 X 150.17 X 150.21	22559	8.310	566.2	25.1	

Note:
The results pertain to the samples received and tested.
All information furnished by Customer/Representative
Any correction in the report will make this report invalid
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 30 days from the date of issue of test certificate

Prepared by
Harsitha

AE W4

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES |

CIVIL PRO
AN ISO 9001 : 2008 COMPANY &NABL ACCREDITED LABORATORY AS PER ISO/IEC 17025:2005
4, 7TH MAIN MALLESWARAM, BANGALORE -3
Certificate No.: T- 4358

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID	:	CP-2017-06-23-01
Customer	:	Assistant Executive Engineer, Yelahanka Satellite Town, Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Satellite Town, Sub Division, BBMP, Bangalore.
Project Name	:	Construction of CC Road near GPS school at Kanakanagara in ward no.04
Agency	:	Sri.Venkategowda, No:531/1, 14th A Cross, A sector, Yelahanka New Town, Bangalore-64.
Customer's Reference	:	EE(YN.D)E-PMT-07/W.O/71/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	23-06-16
Sample ID No	:	2017-06-23-01-01
Customer ID	:	PCC
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M20 / 7 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date: 28-06-17

Date of test : 28/06/2017

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen	Cross sectional area	Weight of the sample	Failure Load	Compressive strength	Average Compressive Strength
					(mm)	(Sq.mm)	(kg)	(KN)	(N/mm^2)	(N/mm^2)
1	PCC	M20	21/06/2017	28/06/2017	150.20 X 150.28 X 150.23	22572	8.320	395.0	17.5	17.8
2	PCC	M20	21/06/2017	28/06/2017	150.18 X 150.16 X 150.15	22551	8.280	403.7	17.9	
3	PCC	M20	21/06/2017	28/06/2017	150.11 X 150.17 X 150.14	22542	8.290	408.0	18.1	

Note:
The results pertain to the samples received and tested.
All information furnished by Customer/Representative
Any correction in the report will make this report invalid
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 30 days from the date of issue of test certificate

Prepared by
Harsitha

AEW4

CIVIL Pro BANGALORE Sig..... Date.....

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL |
GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES |

CIVIL PRO
AN ISO 9001 : 2008 COMPANY &NABL ACCREDITED LABORATORY AS PER ISO/IEC 17025:2005
4, 7TH MAIN MALLESWARAM, BANGALORE -3

TEST RESULTS OF STEEL

Lab ID	:	**CP-2017-06-19-01**
		Date: 21-06-17
Customer	:	Assistant Executive Engineer, Yelahanka Satellite Town, Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Satellite Town, Sub Division, BBMP, Bangalore.
Project Name	:	Construction of CC Road near GPS school at Kanakanagara in ward no.04
Agency	:	Sri.Venkategowda, No:531/1, 14th A Cross, A sector, Yelahanka New Town, Bangalore-64.
Customer's Reference	:	EE(YN.D)E-PMT-07/W.O/71/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	19-06-17
Sample ID No	:	2017-06-19-01-01
Sample Type	:	JSW
Reference to BIS codes	:	IS 1786-2008, IS:1608-2005(RA 2011), IS 1599-2012.
Date of test:	:	20-06-17

Sl.No	Identification of sample	Grade of the sample	Diameter of the steel bar	Weight of the sample	Yield stress	Tensile strength	Elongation	Bend test	Rebend test
			(mm)	(kg/m)	(N/mm2)	(N/mm2)	(%)		
1	JSW	Fe500	8	0.392	542	672	20.0%	Satisfactory	Satisfactory
2	JSW	Fe500	10	0.612	569	687	19.5%	Satisfactory	Satisfactory
3	JSW	Fe500	12	0.888	587	692	19.0%	Satisfactory	Satisfactory

Note:
The results pertain to the samples received and tested.
All information furnished by Customer/Representative
Any correction in the report will make this report invalid
This report without prior written approval should not be reproduced or published in full or part.
Samples will be disposed after 30 days from the date of issue of test certificate

Prepared By:
Harshitha

AE W4

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.

P.KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com
HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL|
GEO TECHNICAL| PROJECT MANAGEMENT| SURVEYING SERVICES|